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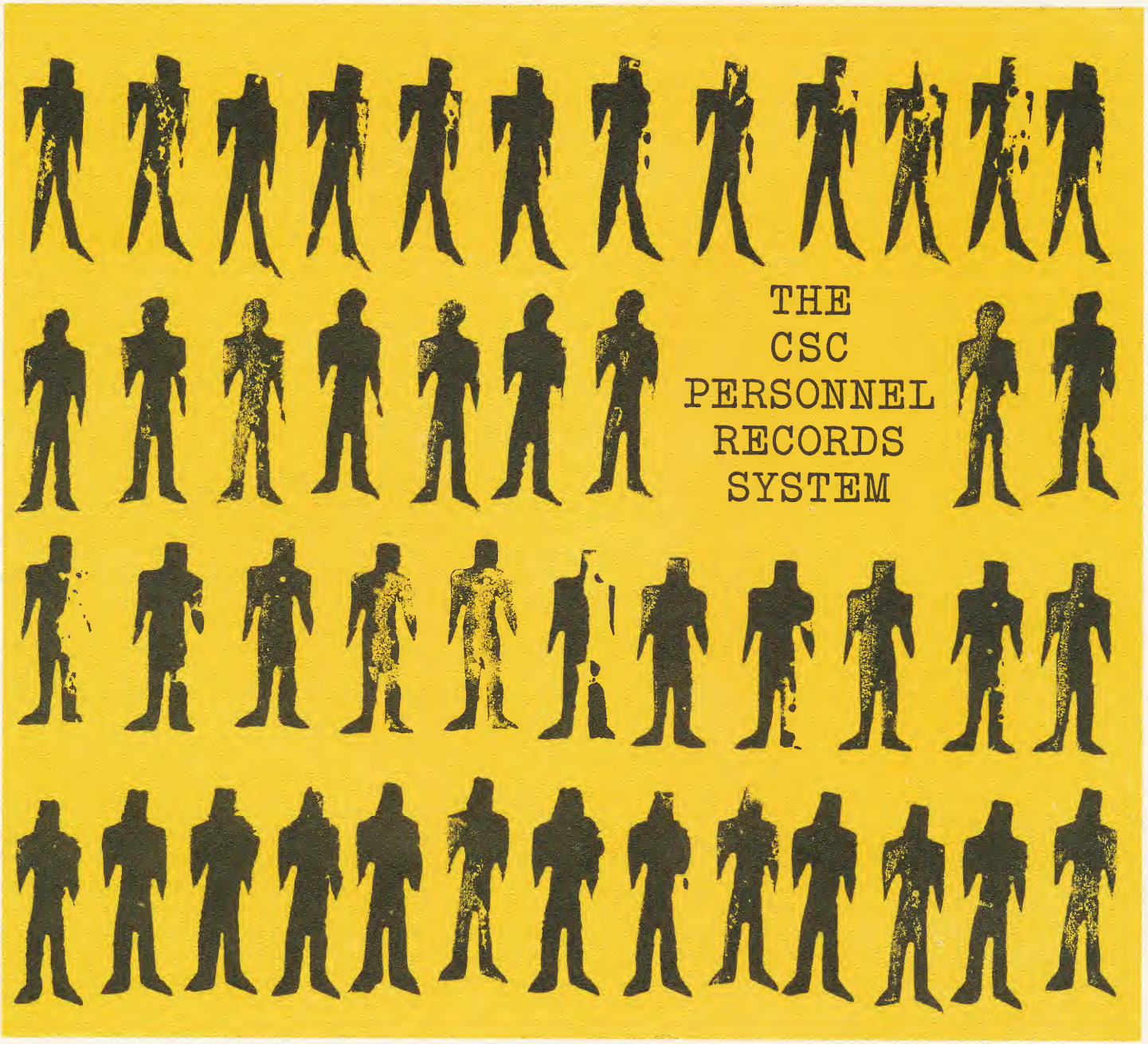
CSC REPORT



THE CSC PERSONNEL RECORDS SYSTEM

CSC has recently completed the design and implementation of a comprehensive personnel records systems for the Standard Oil Company of New Jersey. The system is now in full operation and has been introduced to the various foreign affiliates of Standard Oil.

The magnitude of this development is represented by two years of analysis, programming and implementation by the CSC staff. More than 5,000 instructions were written in Autocoder for the IBM 1401 computer. In addition, the principal file maintenance program was prepared in COBOL for the IBM 7080.

A comprehensive set of subrecords has been developed by CSC to include every conceivable type of employee data. In the event that additional types of subrecords are required, over 900 codes are available for identification.

The CSC system consists of three basic programs. The first converts personnel records from cards to tape as well as the various additions, changes and deletions to a personnel records file. The second program maintains the file which is written in balance-line form for updating. The third program provides the user with complete reports of job and salary histories reflecting current changes in the file.

Changes to the file are applied to entire subrecords or to individual fields in subrecords. The ability to change fields independently insures against the risk of changing good data to bad, since only data which must be changed is affected.

An elaborate system of checks is performed on all entries to the system by an edit run. All errors are listed and erroneous entries are omitted from the tape.

Two reports are produced by the CSC Personnel Records Systems, which are used in providing a current hard copy file. These are produced only when they reflect changes to the tape file so that the hard copy file is maintained by exception.

Data Flow

In the flow of data for the system, changes from the originating department are keypunched and placed on tape by a 1401 edit run. A listing of data is produced which also contains error messages for change cards which are not placed on tape. The output tape may be recycled and merged with the corrected changes noted in the listing until a complete change tape is produced.

The tape containing the edited change records is then fed into the file maintenance program and applied to the existing master file. An updated master file is created. In addition, an indicator tape is created which is used to control the printout of two reports.

Once the master file has been updated, it is fed into the reports (job and salary print) program together with its associated indicator tape. This program produces two types of reports: a job and salary history.

The Edit Run

Change records are introduced into the edit run in the form of cards. Changes include subrecords which may be added, replaced, or deleted. In order to delete an entire employee record it is unnecessary to delete each subrecord individually. Instead, a master record deletion may be accomplished simply by deleting the employee's name subrecord. It is also possible to replace individual fields in subrecords by using the variable change concept.

The edit run produces a tape which contains all of the change records which have passed the various edit checks, and a listing of the input data is also produced. If a change record is erroneous, messages for all of the errors are listed below the line on which the record is printed. If a change record has any messages associated with it, it is not recorded on tape.

File Maintenance

The file maintenance run applies the change records from the edit run to the master file. Subrecords are added, replaced, and deleted.

As the changes to employee record are completed, an indication of the effect of these changes is written on the indicator tape. This tape monitors the production of the job and salary reports.

During this run, both the master and change files are sequence-checked.

Attempts to delete or revise subrecords which are not in the file are checked. An attempt to add a subrecord which is already in the file is also checked. Such errors negate the effect of the change and cause the change and a message to be printed out.

The Reports Run

The indicator tape and the personnel master tape created in the file maintenance run are fed into the reports run. For each employee, the indicator tape is examined to see if changes in the record have taken place which affect the Job History report. If so, a Job History report is printed out for that employee using information contained in the master file. The indicator tape is also examined to see if changes in an employee's record have occurred which affect his Salary History report. In this event, a Salary History report is written on a work tape using information contained in the master file.

Once the indicator tape has been completely examined (in-

dicator records are not written for employees whose job and salary reports have not been affected), the work tape is rewound and the Salary reports are printed from it.

The Employee Record

Two types of subrecords comprise the employee master record:

1. The basic description subrecords containing fundamental information on persons described in an employee's master record.
2. Subrecords which may be multiple and/or which are of historical nature.

The basic description subrecords are divided into those for the individual of record, the person to notify in emergency, the primary dependent of the individual of record, and any other persons, and information on employees who are required to be included in the employee's file. The final group contains subrecords for the spouse of the employee, and subrecords for the employee's children.

The basic description subrecords for the individual of record include:

1. An employee name record.
2. Address subrecords.
3. A telephone-location subrecord.
4. A subrecord containing such miscellaneous information as blood type and birth date.
5. A subrecord for use in the manpower statistics reporting system.
6. A group of subrecords which have not been defined and are open to users of the system.

The subrecords available for the other types of employees noted above are the same as for the individual of record, except that a manpower statistics subrecord has not been provided.

The historical subrecords are in turn divided into three groups:

1. Subrecords detailing the relationship of the individual to the organization.
2. Subrecords describing the qualifications of the individual of record.
3. Subrecords which are currently undefined, the function of which may be determined by the user.

The subrecords relating to the relationship of the individual of record to the organization consist of a series of subrecords providing the occupational history of the individual, a series of subrecords including salary history, and a series of subrecords whose functions are open.

The subrecords which describe the qualification of the individual consist of a series of subrecords describing his educational history, a history of measurements (aptitude tests, etc.), and a series of subrecords whose functions are open.

The functions of all of the remaining subrecords in the file are open.

It is important to remember that an employee record need consist of only those subrecords which are directly applicable. The record, for instance, may consist only of his name subrecord.

Although the CSC Personnel Records System provides a set of subrecords broad enough to cover the general needs of the user, it also provides for subrecords that can be generated to meet many additional requirements.

A supplementary program also developed by CSC, permits extraction of personnel data for multiple reports during the course of a single computer run. This procedure substantially reduces the usual time lag in recompilation and assembly, as well as the amount of time required on the computer.

Known as the 1401 Extract and Retag Subsystem, knowledge of programming is not required by computer users. Information concerning additional reports which may be needed is recorded in the computer's main memory and directly interpreted by the program during the course of a single run.

For example, if the payroll for a particular department should exceed a predetermined amount, corporate management may require reports on all employees earning in excess of $10,000, their positions, backgrounds, etc. Normally, several computer runs would be required although with the CSC system, the 1401 can be instructed to produce all of the reports during one run.

CSZ . . CSZ . . A NEW SYMBOL ON THE AMERICAN STOCK EXCHANGE

On January 22, the common stock of Computer Sciences Corporation was admitted to listing and trading on the American Stock Exchange. Ticker tape initials for the company are CSZ.

Computer Sciences is the first company in its field to be admitted to any national stock exchange.

At present, there are 896,500 common shares of CSC stock outstanding, with 71.5% of the shares owned by CSC officers and directors. Current assets of the company are $3,423,885.

CSC WINS SANDIA CONTRACT

The Sandia Corporation, Albuquerque, N.M., has awarded CSC a major computer programming contract last month for mathematical analysis and programming services as well as for use of CSC's large scale 1107 computer. Work will be performed in the fields of aerodynamics and thermodynamics by CSC's Scientific Applications Department.

M. O. KAPPLER JOINS CSC AS VICE PRESIDENT

The appointment of M. O. Kappler as Vice President of Computer Sciences Corporation was announced early this month by CSC President Fletcher Jones.

A prominent executive in the field of information processing, Mr. Kappler was formerly President of System Development Corporation since its inception in 1957.

At CSC, Mr. Kappler will exercise general administrative and executive responsibilities in the information sciences. Fields of special interest will include military systems analysis and design, systems programming for command and control, information and retrieval applications, and system simulation.

As a veteran electronics engineer, Mr. Kappler joined RAND in 1949 and was soon promoted to Assistant Chief of

the Electronics Division. He became Co-director of the System Development Division in January, 1956. When the division was established as a separate corporate entity, Mr. Kappler became President and a member of the Executive Committee of the SDC Board of Trustees.

Mr. Kappler was born in Los Angeles, Calif., on Aug. 21, 1909, and was graduated from University High School. At the University of California (UCLA), he majored in physics and business.

From 1934 to 1940, as chief electronics engineer for Frank Rieber, Inc., of Los Angeles, Calif., Mr. Kappler gained wide experience in the growing, young electronics industry and was responsible for the development of several audio and geophysical electronic products.

During World War II, Mr. Kappler worked in the U.S. and Pacific theaters of war on Navy sonar equipment and participated in submarine missions during several test runs. He held the position of Chief of Circuits Laboratory and Assistant Director, Sonar Development Division, for the University of California Division of War Research (now the Naval Electronics Laboratory).

After the war, Mr. Kappler formed his own firm, M. O. Kappler Co., for the development and manufacture of specialized electronic equipment including high fidelity sound systems. During this time he invented numerous electronic equipment items in the fields of regulated power supplies, low-frequency amplifiers, and audio-frequency amplifiers.

Mr. Kappler is the author of various technical papers and articles including "The Opportunity for Innovation in Management Controls" published in the book, *Management Control Systems* (John Wiley & Sons, 1960). He is a senior member of the Institute of Radio Engineers and also holds memberships in the Association for Computing Machinery, the Acoustical Society of America, and the Electronic Club.

SERVICE BUREAU INSTALLS $200,000 PRINTER PLOTTER

The CSC Service Bureau Division announced the installation of the SC 4020 printer plotter this month, a $200,000 accompaniment to the large scale 1107. The SC 4020 is capable of converting binary or BCD codes into alphanumeric printing, curve plotting and line drawings. The 4020 records information at high speeds on both microfilm and photo recording paper. The recorder's microfilm output is compatible with existing film storage and retrieval systems. Recording speeds up to 17,000 characters per second are attainable.

Applications for the SC 4020 include scientific curve plotting for flight test engine performance, missile trajectory simulation, PERT and other critical path charts, weather mapping, and plotting of various business graphs.

Programming for the 1107-4020 has been completed, documented and used by CSC.

CSC EXHIBIT

CSC's first exhibit at the recent Fall Joint Computer Conference in Las Vegas is pictured and will be transported to Washington, D.C., for the Spring Joint in May. The exhibit features a revolving bronze mobile symbolizing the integration of art and the information sciences. The CSC logotype was backlighted in three colors — gold, blue, and orange.

NEW INPUT TO CSC ADDS 107 MAN YEARS

Twenty new technical staff members joined CSC last month, adding more than 107 man years experience to the company in Commercial Applications, Systems Programming, and Scientific Applications.

New additions to CSC's San Francisco facility include Fred Brand from Douglas; Frank Giallanza, Lawrence Radiation; Foster Pendley, General Dynamics; Vaughn Westaway, Sandia; William Wilson, Kaiser Aluminum, and George Zeng, Astronautics.

Assigned to the Systems Programming Department in Los Angeles are Donald Bucher, formerly of Remington Rand Toronto; George Doane and V. Unruh from System Development Corporation.

In Scientific Applications, new additions include James Dorsey from North American Aviation; Arkel Erb, Douglas; Nathalie Freel, Thompson Ramo Wooldridge; Peter Gerrard, Boelkow Entwicklungen (Munich); Harold Soloman, Douglas, and Bernard Thielen, General Electric.

New staff members assigned to Commercial Applications include Gerald Kambestad from Southern California Edison; Chris Miller and Martin Weiner, North American Aviation.

At CSC's Houston Division, new staff members include Louis Bonner, Jr. formerly with T. J. Bettis Co., and James Jowell, SDC.

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